



ERREG Advice on

Comitology Guidelines for
Fundamental Electricity Data
Transparency

Initial Impact Assessment

(December 2010 update)

Ref: E10-ENM-05-01
7 December 2010

Table of Contents

1	PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES	4
1.1	The issue of transparency	4
1.2	Rationale behind the initiative and for the ERGEG mandate	6
1.3	Organisation and timing	6
1.4	Consultation and expertise	7
2	PROBLEM DEFINITION	9
2.1	What is the issue or problem that may require action?	9
2.2	The existing legislation and previous efforts to improve transparency	12
2.3	ERI transparency reports and transparency monitoring	13
2.4	What are the underlying drivers of the problem?	15
2.5	Who is affected, in what ways, and to what extent?	17
2.7	How should the problem evolve, all things being equal? Should the EU act?	18
3	OBJECTIVES OF THE INITIATIVE	20
3.1	General objectives	20
3.2	Specific objectives	20
3.3	Confidentiality	20
4	POLICY OPTIONS	22
4.1	Option 1 – Continue with the current arrangements	22
4.2	Option 2 – Adopt more detailed binding rules	23
5	COMPARISON OF POLICY OPTIONS	25
5.1	Generation	25
5.2	Transmission and interconnection	29
5.3	Load	31
5.4	Balancing	33
5.5	Publication of transparency data	34
6	THE BENEFITS AND COSTS OF THE PROPOSED FRAMEWORK	36
6.1	The benefits of increased transparency	36
6.2	Costs of improving transparency	41
7	CONCLUSIONS	43
8	MONITORING AND EVALUATION	45
	ANNEX 1 – GLOSSARY AND ABBREVIATIONS	46

**ANNEX 2 – MANDATE FOR ERGEG TO PROVIDE ADVICE TO EC ON
TRANSPARENCY 47**

1 PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

1.1 The issue of transparency

Transparency refers to the public availability and disclosure of all relevant information. A prerequisite for a market to function properly is to have all the relevant information available to all market participants including potential and prospective market entrants. The more information is disclosed about an economic activity the better. Also in economic theory, one of the characteristics assigned to perfect competition assumes perfect information being available to buyers and sellers of a commodity.

The introduction of competition into generation and retailing of electricity has resulted in the development of increasingly competitive wholesale electricity markets. The development of efficient European wholesale markets is critical to achieving the aims of market liberalisation and can bring considerable benefits to customers. Market transparency is key to the successful development of efficient wholesale markets.

Information relevant to market actors in the wholesale electricity market can be divided into categories in different ways. One way of classifying the information is to make a distinction between the so-called **fundamental data** elements that are related to network infrastructure and the demand and supply factors (and thus to physical delivery of electricity) and **trading transparency** that covers information on the trading activities themselves.

Fundamental data transparency refers to the availability of information on the relevant aspects affecting the electricity market through its impact on the behaviour of market actors (TSOs, generators, users and traders) and thus on price formation and electricity trade taking place. Market participants rely heavily on accurate, complete and timely information on both the availability of transmission infrastructure and market fundamentals (information on supply and demand) for their trading decisions. For the electricity transmission infrastructure, these data include e.g. available and reserved transmission capacity, information on the actual use of the infrastructure, long-term forecasts of available capacity, forecasts of grid development through investments and effect to transfer capacity and information on maintenance periods. For market fundamentals, the data includes, among other things, forecasts on aggregated demand, planned and unplanned generation outages and the realised values for the forecasted data.¹

In their Transparency Policy (published in March 2010²), the European Network of Transmission System Operators for Electricity (ENTSO-E) defined fundamental data

¹ Q&A: the infringement exercise concerning cross-border energy network access and regulated prices, European Commission Memo 09/297, Brussels 25 June 2009.

² ENTSO-E Transparency Policy 1.3.2010, p. 3-4.

https://www.entsoe.eu/fileadmin/user_upload/library/Key_Documents/100311_ENTSO-E_Transparency_Policy.pdf

as being such information which describes physical conditions influencing the electricity market directly or indirectly. To compete effectively, all market participants need to be able to predict the likely evolution of supply and demand fundamentals and transmission capacity availability. Market participants base these predictions on analysis of expected levels of future load, transmission capacity and generation capacity, and by detailed analysis of actual events in the past and the observed impact on prices. In the present impact assessment, transparency refers to the public availability of information necessary for market participants to be able to make such an assessment.

Trading transparency is often divided into pre-trade and post-trade transparency. Pre-trade transparency includes information accurately indicating the size and price of prospective trading interest whereas post-trade transparency refers to the dissemination of trade price and volume of completed transactions from all markets trading that commodity.

Transparency of transactional data is essential in order to ensure market confidence in energy trading. Data which influence market fundamentals should be made transparent to a sufficient extent, taking into account legitimate competition concerns (e.g. collusive behaviour).

Further, an effective monitoring regime requires consistent access to market data. The 3rd Package implements new requirements on transparency of transactional data. The record keeping obligations codified under the 3rd Package will give regulators the power to access the transactional data kept by supply undertakings, which are required to keep records on all trading transactions for 5 years.

Since the European Commission (the Commission) published the 3rd Package proposals, it has been seeking advice on issues concerning record keeping and transparency of transactions in electricity and gas supply contracts and derivatives. In this context, the Committee of European Securities Regulators (CESR) and ERGEG, conducted a public consultation and delivered joint advice to the Commission³. Further, the Commission has worked closely with stakeholders with the aim of developing a proposal for an efficient, effective and coherent oversight regime specifically designed for energy markets to ensure market integrity and transparency. The Commission states that such a regime should lead to clear benefits, including:

- Increased probability of the detection of market misconduct;
- Reduced incidence of misconduct as a result of effective oversight;
- Reduced risk premiums;
- Higher liquidity levels as a result of greater market confidence;
- Reduced bid-offer spreads as a result of greater market confidence.

³ Record-keeping, transparency and exchange of information – ERGEG and CESR advice to the European Commission in the context of the Third Energy Package, Ref. C08-FIS-07-03, 17 December 2008

To ensure a wide public consultation on this issue, the Commission launched a public consultation that closed on 23 July 2010. The Commission can adopt binding guidelines in this area to ensure the uniform application of the record keeping obligations provided for in the 3rd Package.

In parallel, and following a mandate from the Commission (see Section 1.2 below), ERGEG has been working on the first category described above, fundamental data. The present Initial Impact Assessment addresses **fundamental data in electricity markets** and supports and accompanies ERGEG's Advice to the European Commission on Comitology Guidelines on Fundamental Electricity Data Transparency (Ref. E10-ENM-27-03, 7 December 2010).

1.2 Rationale behind the initiative and for the ERGEG mandate

The Conclusions of the XVII European Electricity Regulatory Forum that took place in Rome on 10 and 11 December 2009 stated that “Regarding transparency rules, ERGEG agreed to give advice to the Commission on a legally binding guideline by the next Forum in view of ERGEG developing a final draft by the end of 2010. This work shall be prepared in close co-operation with ENTSO-E and with full consultation of the stakeholders.”

A Commission letter⁴ of 18 January 2010 to ERGEG confirmed the Commission position regarding the guideline on fundamental electricity data transparency. The letter also referred to the Commission's discussion paper from September 2009 where transparency was mentioned as an area of priority. The Commission requested ERGEG advise the Commission in this matter and prepare a draft guideline by the end of 2010, which the Commission could formally adopt and make legally binding through comitology. The letter further defined that the work should take into account the existing requirements for fundamental data transparency in the Congestion Management Guidelines annexed to Regulation 1228/2003/EC and the experience gained during the period the requirements have been in force. Additionally, the work done on transparency in the Regional Initiatives should also be taken into account. The Commission also suggested in its letter that the work on the draft guideline on fundamental data transparency be done in close co-operation with ENTSO-E. In its letter, the Commission finally suggested giving full recognition in the draft guideline to ENTSO-E's efforts to create a single interface for publication of data through a common internet portal (ETSOVista).

1.3 Organisation and timing

This Initial Impact Assessment has been prepared by ERGEG. The work started in February 2010 with the analysis of the problem, objectives and policy options. To establish close co-operation with ENTSO-E as requested by the XVII European Electricity Regulatory Forum Conclusions and the Commission letter of 18 January 2010, a joint working group with ENTSO-E was established. The Commission (DG ENER, DG COMP) was invited to participate in the joint working group. The joint

⁴ See Annex 2.

working group met physically ten times and, in addition, had a number of virtual meetings in the form of either video or telephone conferences. Two public stakeholder workshops on 1 June and 11 October 2010 were organised jointly by ERGEG and ENTSO-E.

1.4 Consultation and expertise

ERGEG, in co-operation with ENTSO-E, organised a **workshop on Internal Electricity Market Transparency** (IEM Transparency: Fundamental Data, Rules, Tools) in Brussels on 1 June 2010. The workshop was attended by some 90 participants representing electricity generators and suppliers, traders, customers, TSOs, distribution network operators, the Commission and regulators. The workshop focused on the design of the transparency framework and the tools to implement the transparency requirements.

Workshop participants called for new European legislation to establish a minimum level of transparency to provide market participants with a coherent view of European energy markets, ensure reliable price formation and reduce barriers to entry. There was wide support for introducing more detailed binding rules on fundamental data transparency as the current rules of the Regulation and the Congestion Management Guidelines are not detailed enough, which leads to inefficient implementation. Participants emphasised that the legislation should make clear what information should be published and who has the legal responsibility for ensuring its publication. Participants noted that any legislation should apply to both conventional and renewable generation. With regard to the responsibility to publish the information, there was broad consensus that the owner of the data should be responsible for its publication, or ensuring that it is published.

Specific areas of fundamental data in electricity were also discussed. In particular, traders emphasised the importance of publishing information on generation outages as soon as it is known, because for every distressed buyer there is an ignorant seller. The long-term benefits in terms of market trust and liquidity would reduce overall balancing costs for everyone and the benefits would outweigh the short term costs for any generator that faces slightly increased balancing costs if they are operating in an uncompetitive market or if the balancing mechanism isn't well designed. Furthermore, the need for data on balancing market was raised. Some traders expressed the need for access to real-time balancing information and noted that in some countries balancing information is only published ex-post which means it is published too late for it to be of any use to the market.

In addition to the need for transparency for wholesale market information, transparency on market rules was considered as important as fundamental data transparency. One of the questions to the workshop panel addressed the estimate of costs and benefits of improving transparency. Assessing the benefits is a complicated task, as the level of transparency has a wide influence on the functioning of the electricity wholesale market and price formation on it. However, a rough estimate of benefits in the range of €100 million-billion was given while at the same time the costs of introducing a stricter transparency regime were estimated to be at the level of 10 million.

The workshop addressed the practical solutions for providing the relevant data and the alternatives of pan-European and regional approaches were discussed. There seemed to be wide support for a European platform due to the fact that the focus is on an integrated European market and therefore a pan-European view on the market is needed. However, it was admitted that additional regional sources of information can exist. Regional and European approaches to transparency should be complementary but the separate and varying regional approaches cannot replace the need for a European approach. In some countries/regions transparency initiatives have been established and some concern was indicated that these initiatives would be undermined by a mandatory European solution.

The workshop participants also raised the issue of format of the data – it has to be easy, allowing for example automatic downloading. This would then enable the development of systems that automatically push/pull data between different databases when something new happens. This highlights the importance of the consistency of the data as there will not be any manual check of it.

The second workshop - Ergeg/Entso-E Workshop, Fundamental Data Transparency In Electricity - took place on 11 October 2010 and was attended by some 90 participants who represented electricity traders, suppliers, generators, large consumers, TSOs, distribution network operators, the Commission and regulators. The workshop addressed data definitions and issues relevant for the efficient and speedy implementation of the proposed fundamental data transparency framework.

At the workshop there was wide support for the proposed transparency regime that would introduce more detailed and binding rules for electricity fundamental data transparency. The issues raised by the workshop participants related to how to publish the data, the enforcement of the proposed binding rules in the Energy Community Treaty countries and the level of aggregation of certain proposed data items.

Between 9 September and 28 October 2010, ERGEG held a public consultation on the draft comitology guideline on fundamental electricity data transparency⁵. Altogether 33 responses were received, which are available at the European energy regulators website <http://www.energy-regulators.eu>. An evaluation of responses⁶ to assess the comments and propositions included in the responses to the draft comitology guideline has been prepared by ERGEG and accompanies the final ERGEG advice.

⁵ ERGEG Draft Comitology Guidelines on Fundamental Electricity Data Transparency Ref: E10-ENM-02-07, 8 September 2010

⁶ ERGEG Public Consultation on Fundamental Electricity Data Transparency, Evaluation of responses, Ref: E10-ENM-27-03a

2 PROBLEM DEFINITION

2.1 What is the issue or problem that may require action?

The costs of poor transparency in energy markets are well known. Insufficient transparency has adverse effects on **market competition** and price **formation** as not all the market actors have access to the same information and an **unlevel playing field** is created. This **asymmetry of information** that results from a lack of transparency also creates opportunities for **market manipulation**. In addition, if incumbents have access to better information or more complete information, the perception that market manipulation can take place acts as a strong **barrier to entry** and **reduces trust in the price formation** process and may result in **lower liquidity**. Publication of fundamental data is seen as a first step and pre-condition to the creation of a competitive and efficient European electricity market.

The Pöyry study⁷ has stated that transparency is an important enabler for increasing competition in the market, but it also gives tools, or to some extent substitutes, for market monitoring and regulation. The better the competition in the market, the less there is a need for an authority to monitor the market. Poor transparency may have a series of direct and indirect effects on retail prices, for example:

- imperfect information may lead to erroneous decisions, an increased cost of capital and/or costly risk management measures, leading to an increased cost base and ultimately increased retail prices to cover these increased costs (although note that for short periods, retail prices may be below the true costs due to unexpected price volatility);
- poor information available to regulatory and/or competition authorities can lead to ineffective regulatory oversight, with companies able to maintain higher prices, retain higher profits (or shield a higher cost base) than would be the case in a competitive environment;
- information asymmetry between market participants and potential competitors can present barriers to market entry, which reduces the level of competition and which might be expected to increase market prices at wholesale and/or retail levels;
- illiquid trading and unreliable price reporting may lead to a high risk premium for retail companies seeking to hedge their price exposure, increasing the cost to serve customers; and
- poor coordination in operational time scales, e.g. between a TSO and generators or neighbouring TSOs, can reduce security of supply, or increase the cost of maintaining a given level of security of supply.

Lack of transparency has been an ongoing concern and an identified major shortcoming in the internal electricity market since the adoption of the 2nd Package

⁷ The Benefits of Increased Transparency in European Wholesale Electricity Markets, A report to the Energy Market Authority (Finland), by Pöyry, November 2010

in 2003. **Regulation (EC) No. 1228/2003**⁸ provided for the first binding rules in its Article 5 on the provision of information on interconnection capacity, requiring for example that TSOs publish safety, operational and planning standards, including the general scheme for the calculation of the total transfer capacity and the transmission reliability margin. In 2005 the Commission's Progress Report⁹ called for appropriate rules on transparency, remarking that a situation where only the incumbents have the information necessary to trade effectively in the market is unacceptable.

The **Commission's Sector Inquiry** identified¹⁰ a lack of reliable and timely information on the markets as a key barrier to the development of a competitive single European energy market. The Sector Inquiry concluded that network users require more transparency going beyond the then existing minimum requirements set by EU legislation. Data relating to network availability, especially for electricity interconnection, was considered to be particularly important. Furthermore, data on the operation of generation capacity also needed to be more widely available. For electricity in particular, it was noted that rules on proper market conduct and supervision differ significantly between Member States, as there is little harmonisation at EU level of transparency requirements. The Sector Inquiry also stated that at present there is an information asymmetry between the vertically-integrated incumbents and their competitors. Improved transparency would minimise risks for new market players and so reduce entry barriers and improve trust in the wholesale markets and confidence in price signals.

Despite efforts over the past years to coordinate improved transparency at the European level through voluntary initiatives, significant progress has been realised largely through national or regional initiatives with relevant TSOs, power exchanges or third parties responsible for collecting, aggregating and publishing information on electricity market fundamentals. These initiatives were based on meeting the needs of national or regional stakeholders, taking into account the maturity of the relevant markets and specificities of the market design. From a European perspective, this approach has resulted in a **patchwork of information** being available to the market through a **mixture of voluntary or legal initiatives**. In some regions or Member States, there is a perception that sufficient information is made available to market participants. However, there are also regions within Europe where it is recognised that the level of fundamental data transparency is insufficient. This is one problem which this comitology guideline will seek to address.

A second problem is the strong heterogeneity of the information that is currently published in each Member State or region. A lack of harmonisation in both the type of information that is available and the format in which it is published makes it impossible for market participants to develop a coherent and accurate view of electricity market fundamentals. With a shift to deeper integration of European

⁸ Regulation (EC) No 1228/2003 of the European Parliament and of the Council of 26 June 2003 on conditions for access to the network for cross-border exchanges in electricity

⁹ Communication from the Commission to the Council and the European Parliament Report on progress in creating the internal gas and electricity market, Brussels, 15.11.2005 COM(2005) 568 final

¹⁰ Communication from the Commission Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors (Final Report), Brussels, 10.1.2007, COM(2006) 851 final

energy markets through, for example, the various market coupling initiatives, the need for information covering a wider geographical market and ultimately the whole European market is becoming imminent. It is clear that in order for wholesale market participants to make efficient and well-informed choices they will increasingly require information to be available at an inter-regional and pan-European level. This comitology proposal seeks to address this problem by **requiring harmonisation at the European level and proposing that a minimum standard of information must be published in all regions and Member States.**

Fundamental data has been provided by TSOs on their national websites and on the websites of power exchanges. Nord Pool Spot has been publishing for a number of years information on planned and unplanned outages of power plants, transmission infrastructure and significant consumption units. Another example of publishing is the establishment at the end of 2009 of the central transparency platform for generation and consumption data (www.transparency.eex.com) by the European Energy Exchange (EEX) and the four German transmission system operators – Amprion GmbH, EnBW Transportnetze AG, transpower stromübertragungs GmbH and 50Hertz Transmission GmbH. During the first six months since the establishment of the new platform, the degree of coverage of the statutory publication requirements has increased from 74.8% initially to almost 93% now. Despite the fact that the number of reporting companies has increased, a voluntary initiative entails the risk of not being able to ensure effective disclosure of relevant information.

In November 2006, the predecessor of ENTSO-E, ETSO (the Association of European Electricity Transmission System Operators) launched the ETSOVista platform. It made available, for the first time, key operational and congestion management information about electricity transmission between Member States for the largest part of Europe's high voltage electricity transmission grid and included an overview map of quasi-real-time physical flows, the exchange schedules per border per hour, the yearly, monthly and daily auction data per border and the access rules and other documents. ETSOVista platform has since been renamed entsoe.net. However, due to the lack of binding requirements on TSOs and other relevant data providers – especially generators – the entsoe.net platform has not managed to cover a sufficient degree of fundamental data of the Member States.

In the rest of this impact assessment, we explore the costs and benefits associated with introducing more detailed binding requirements on fundamental data transparency and establishing a central information platform to provide this data in an easy and efficient way to all interested parties free of charge.

2.2 The existing legislation and previous efforts to improve transparency

The current rules of fundamental data transparency in electricity are defined in Regulation (EC) No. 1228/2003 and the Congestion Management Guidelines¹¹. The Guidelines were adopted in November 2006, replacing the annexed guidelines of 2003 and becoming applicable in December 2006.

With the adoption of the 3rd Package, a new Electricity Regulation, Regulation (EC) No. 714/2009 entered into force having as its annex the 2006 Congestion Management Guidelines. Compared to the original 2003 annexed guidelines, the 2006 **Congestion Management Guidelines** (which are applicable now and also after 3 March 2011 when the new Regulation becomes fully applicable) contain significantly more detailed requirements on transparency. This is based, however, on the same Regulation. The Guidelines put obligations on TSOs to provide information on transmission infrastructure and its use, generation and load. As part of the information has its source outside the TSOs, i.e. generators and users of electricity, market participants concerned are obliged to provide the TSOs with the relevant data for publication.

Information on network infrastructure shall include information on capacity allocation and the congestion management procedures applied and operational and planning security standards. The classes of information to be published on a regular basis (annual, month, week-ahead forecasts, daily day-ahead and intraday information) include data related to available transmission capacity, capacity used, aggregated realised commercial and physical flows, ex-ante information on planned outages and ex-post information for the previous day on planned and unplanned outages of generation units larger than 100 MW. Additionally, information on forecast demand and generation as well as ex-post realised values for the forecast information is to be published.

In parallel to the development of the EU legislation promoting transparency and contributing to it, ERGEG launched its work on transparency in electricity in 2005, in recognition of the fact that more detailed rules on transparency are needed to ensure that a minimum and sufficiently harmonised transparency framework would be established across the internal electricity market. The work was undertaken in close coordination with the preparation of the amended Congestion Management Guidelines, including the legally binding rules on transparency.

Guidelines of Good Practice for Information Management and Transparency (GGPIMT), prepared and approved by ERGEG in August 2006,¹² sought to establish a consistent approach to the provision of market-related information to wholesale market participants – suppliers, generators, energy traders, large customers and demand side participants – across Member States. The GGP focused on

¹¹ Commission Decision of 9 November 2006 amending the Annex to Regulation (EC) No 1228/2003 on conditions for access to the network for cross-border exchanges in electricity

¹² Guidelines of Good Practice on Information Management and Transparency in Electricity Markets, Ref: E05-EMK-06-10, 2 August 2006

information management and transparency at the wholesale market level and did not consider information that shall be made available to retail customers. The GGP set out ERGEG's views on the required level of transparency that should at a minimum be in place across the European market and they were intended to give a minimum set of rules required for the organisation of information and its dissemination across the European market and to set out general principles governing information release.

The preparation of the GGPIMT included extensive public consultation of the relevant stakeholders, including a public hearing organised by ERGEG in July 2006. The GGPIMT was presented at the Florence Electricity Regulatory Forum on 7-8 September 2006.

Differing views among the stakeholders with regard to the publication of generation data led to the establishment of a Florence Forum ad hoc "Transparency Working Group" (TWG) chaired by the Commission. The conclusions of the XIII Florence Forum stated that "... (the) Commission and ERGEG would invite transmission system operators, Eurelectric, EuroPEX and EFET to a Working Group at which rapid progress will be made to implement them as far as possible immediately on a voluntary basis".

The TWG was to discuss practical implementation of transparency measures and it met three times, making efforts to consolidate the views and solutions with regard to disclosure of generation information.

The XIV Florence Forum held in 2007 stressed the importance of quick and coherent implementation of the existing transparency requirements across Member States. The Forum invited ERGEG to further develop the transparency framework and invited ETSO to further develop the ETSOVista platform in order to make it fully compliant with the legal requirements set in Regulation (EC) 1228/2003 and the annexed Congestion Management Guidelines (CM Guidelines).

2.3 ERI transparency reports and transparency monitoring

ERGEG launched the Electricity Regional Initiatives (ERI) in February 2006. Seven regions (Regional Energy Markets or REMs) were established according to the regions defined by the mini-fora that were organised in 2005 and later confirmed in the amended Congestion Management Guidelines.

The REMs established their priorities during 2006 and transparency was one of their three areas of work, together with congestion management and balancing. The Northern (NE) REM was the first region to finalise its regional transparency report in September 2007¹³. The report was used as a blue print for four other regions which

¹³ Report on Transparency, Final version 13.9.2007, Northern Regional Electricity Market, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_INITIATIVES/ERI/Northern/Final%20docs/Report_on_Transparency1.pdf

adopted a transparency report on the basis provided by the Northern Europe report. This ensured a common and compatible approach towards transparency and information management of the Northern region with the Central-East, Central-West, South-West and the Central–South REMs.

The NE regional transparency report covered generation, transmission and interconnection, load, balancing and wholesale markets. **Implementing the report led to improvements in the previous practice of publication.** For the first time, generation data, including information about unavailability of consumption and generation units was to become available region-wide.

One of the main impediments identified was the delivery of the data from generation and consumption units located in the distribution grids. Market participants concerned (also generators and significant consumption units) are obliged to provide the TSOs, which are responsible for publication, with all the relevant data concerning cross-border trade based on the Congestion Management Guidelines. Therefore, TSOs should be able to get data from generators and significant consumption units connected to the transmission network.

A two-step approach was agreed for the implementation of publication: the first step was to make available information on network, load, and balancing and the second step regarded information on generation. Regarding the location of publication, publication on a common European website was envisaged and considered important as transparency should not only be harmonised at a regional level but also at a European level in order to allow for a true internal electricity market to develop. As interim solutions, the use of the websites of power exchanges and TSOs was accepted.

The Central-West region adopted its transparency report in November 2007¹⁴ and the Central-East region in February 2008¹⁵. The South-West¹⁶ region adopted its report in September 2008 and the Central-South¹⁷ region did so in January 2009.

In 2009, EREG undertook a review of the five regional transparency reports in order to assess whether there were any differing approaches to certain classes of

¹⁴ Report on Transparency, Final version 23.11.2007, Electricity Regional Initiative, Central Western Regional Electricity Market, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_INITIATIVES/ERI/Central-West/Final%20docs/Report%20on%20Transparency

¹⁵ Report on Transparency, Final version 08.02.2008, Electricity Regional Initiative, Central Eastern Regional Electricity Market, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_INITIATIVES/ERI/Central-East/Final%20docs/Report%20in%20Transparency%20in%20the%20CE%20REM

¹⁶ Report on Transparency, 15.9.2008, Electricity Regional Initiative, South West Regional Electricity Market, Ref: E08-ERI-SW-RCC-05-04c, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_INITIATIVES/ERI/South-West/Final%20docs/E08-ERI-SW-RCC-05-04c_Transparency_%20report_%20final.pdf

¹⁷ Report on Transparency, Final version 26.1.2009, Electricity Regional Initiative, Central Southern Regional Electricity Market. http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_INITIATIVES/ERI/Central-South/Final%20docs/Transparency%20Final%20version.pdf

information and if so, whether the differences caused any problems to market functioning and integration. The underlying issue was that transparency requirements for electricity as specified in Regulation (EC) 1228/2003 and the amended CM Guidelines have shortcomings regarding the degree of detail of the required information and may lead to different interpretations within the Member States.

The outcome of the assessment was that the **degree of coherence between the five regional transparency reports is very high**. However, there are some differences between the transparency reports. This was the result of the concept of the ERGEG Regional Initiatives, where on the one hand different regional developments are enabled and on the other hand establishment of the Internal Electricity Market (IEM) in the future is ensured.

In line with this general concept, the NRAs have observed that differences in the transparency reports in other regions do not interfere with the IEM. On some topics, the NRAs have had different opinions on the relevance of the information (e.g. long forecasts for load) or on legal questions (e.g. should data on unavailability of consumption units be published on an aggregated instead of unit by unit basis because of business secrets). Overall, the level of information to be published is the same and is comparable between the regions and does not constitute an obstacle to market integration and the IEM. Therefore, work on the transparency reports has been an important step on the way to the IEM.

However, the existing five reports are applicable only in the respective regions and not across the whole EU. Furthermore, the work in the ERGEG Regional Initiatives showed that existing legal transparency requirements are not precise enough for European harmonisation of transparency. Therefore, in order to ensure a Europe-wide consistent framework for transparency, the requirements set out in these reports should be made legally binding through the mechanisms provided in the 3rd Package for legally binding detailed rules on transparency.

2.4 What are the underlying drivers of the problem?

An underlying driver of the problem is that the **existing legally binding rules on fundamental data transparency in electricity are not detailed enough**, which lends itself to differing interpretations of the specific data items, time frames and timings of publication. This complicates both implementation by TSOs and enforcement by regulators. Consequently, the insufficient level of detail has led to differences in the level of transparency across the Member States. In July 2007, ERGEG published its first Compliance Monitoring Report¹⁸ assessing compliance with the Electricity Regulation and the Congestion Management Guidelines. The report showed that compliance with the transparency requirements differed widely

¹⁸ Compliance with Electricity Regulation 1228/2003 - An ERGEG Monitoring Report Ref: E07-EFG-23-06, 18 July 2007, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_ERGEG_PAPERS/Electricity/2007/E07-EFG-23-06_ComplianceReport_final.pdf

across the Member States. Only a few TSOs published all relevant information related to network availability, access and use together with a report on congestion and its future management. Some TSOs published relevant data related to network availability but this information was missing for the intraday market time frame. Several TSOs published only a report on congestion and its future management. Publication of data was not coordinated within regions.

In May 2007, ETSO published for the first time the Legal Survey on Transparency¹⁹ which provided the first overview of the status of transparency in Europe's electricity market. The survey showed satisfactory results for most of the countries, although the room for improvement was detected and some legal barriers were identified as the reason for not providing the required information to the public. In addition to the efforts undertaken by individual TSOs in achieving greater transparency within their respective markets and in meeting their own obligations under the Congestion Management Guidelines, ETSO developed a web-based data transparency platform, ETSOVista, to act as central point for the publication and exchange of market-related data in a coordinated way amongst TSOs across Europe. In 2008, the ETSOVista platform was significantly improved and the amount of information and number of participating TSOs increased.

The follow-up of ERGEG's compliance monitoring of the Electricity Regulation and the Congestion Management Guidelines was presented to the November 2008 Florence Electricity Regulatory Forum. According to the 2nd Compliance Monitoring Report²⁰, one third of the TSOs met the requirements on the publication of the generation data and a similar state of compliance was reached for the information on load as specified in the Electricity Regulation and the Congestion Management Guidelines.

Based on the findings of ERGEG's 2nd Compliance Monitoring Report, the Commission launched a compliance check of all Member States regarding some of the requirements of the Electricity Regulation, including those related to transparency. In June 2009, the Commission sent 25 Member States letters of formal notice for not complying with the EU legislation on the internal market for electricity and gas. The Commission had found that almost all TSOs put out some infrastructure-related information but almost none of them did so with the required granularity and/or regularity. Furthermore, the level of compliance for the provision of fundamental market data for electricity generation-related information was even lower.

To continue the infringement procedures, the Commission sent requests to 20 Member States in June 2010 regarding the implementation of the electricity and gas

¹⁹ Legal survey of transparency, ETSO, May 2007
https://www.entsoe.eu/fileadmin/user_upload/library/publications/etso/Congestion_Management/Transparency%20legal%20survey_Executive_summary_final.pdf

²⁰ Regulation (EC) 1228/2003 Compliance Monitoring, Second Report, Ref: E08-ENM-03-05, 10 September 2008, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_CONSULT/CLOSED%20PUBLIC%20CONSULTATIONS/ELECTRICITY/2008%20Compliance%20Monitoring/CD/E08-ENM_03-05-Second_Compliance_Report_10%20Sept%202008.pdf

Regulations and the annexed Guidelines. The rules aim at increasing the capacity and transparency of gas and electricity markets. The Member States in question had two months to respond to the requests, which take the form of ‘reasoned opinions’ under EU infringement procedures. In the absence of satisfactory responses from the Member States concerned, the Commission may refer them to the EU’s Court of Justice.

The Commission sent a total of 35 reasoned opinions to the following 20 Member States: Austria, Belgium, Bulgaria, the Czech Republic, Germany, Spain, France, Greece, Hungary, Ireland, Italy, Luxembourg, The Netherlands, Poland, Portugal, Romania, Slovenia, Slovakia, Sweden and the United Kingdom. Key violations identified by the Commission included, among other things, a lack of information provided by electricity TSOs, which thereby obstructs effective access of supply companies to networks.

The second underlying driver of the problem is that the **TSOs do not have incentives to disclose information**. TSOs are regulated entities whose pricing is regulated through various models of economic regulation applied in the Member States. Usually, the tariffs or tariff methodologies are set through the definition of the regulatory asset base, the allowed capital expenditures and the allowed expenses for operational costs. The economic regulatory models very seldom contain incentives for the TSOs to provide market actors with relevant information on the market fundamentals, information which the TSO collects on a regular basis from the generators, big consumers and DSOs connected to its network.

2.5 Who is affected, in what ways, and to what extent?

The main categories of actors affected are TSOs, generators, consumers and traders.

The TSOs are affected in two ways. The increased transparency requirements can create extra costs to the TSOs since they need to establish systems to collect the information on a frequent basis and make it publicly available. On the other hand, better transparency can increase the possibilities of generators, consumers and traders to keep themselves in balance, thus reducing the balancing costs. These costs are charged by balance responsible parties and are extra costs for market actors because balancing power is usually more expensive.

Generators of electricity are better able to plan their generation schedules and investments in generation capacity when they have an improved knowledge of electricity demand and the availability of transmission capacity. Improved transparency will also make the functioning of wholesale market competition more efficient. There are generators that are not vertically-integrated to network activities and they will benefit from a more level playing field, as all the generators should have available to them the same relevant information on the fundamental aspects of the electricity market. Improved transparency will furthermore lower and remove entry barriers to the market since potential market entrants will have at their disposal better information on the market fundamentals. Finally, generators are assigned the task of providing the TSO with the information for which they are the source. The TSO then makes it publicly available. However, larger generation/consumption might already have in place real-time measurement equipment and thus a flow of

information to TSOs for network operation reasons. This information can be used for realised values.

Electricity consumers will benefit from the better competition through competitive and efficient electricity prices. At the moment, poor transparency is causing additional costs to the consumers in the form of higher prices which result from uncompetitive markets. Consumers larger than a defined size will bear the small additional task and cost of providing the TSOs with the relevant load information.

Electricity traders will enjoy the benefits of greater transparency as it will assist in their decision-making related to electricity deals. To be able to assess the prices and volumes before undertaking a trading transaction, it is of the utmost importance to have available up-to-date and sufficient information on network, generation, load and certain wholesale market data.

2.6 The economic, social and environmental effects

The effects of the problem can be dealt with from several perspectives. The problems in the economic sphere are perceived the most easily. The lack of sufficient detailed fundamental data in electricity leads to sub-optimal use of electricity transmission infrastructure and thus prevents the achievement of full market integration and efficient electricity markets. It also leads to sub-optimal use of generation assets and reduces the efficiency and optimality of wholesale market competition.

The effects from a social perspective take the form of possibly higher electricity prices to end-users. The environmental angle is also more indirect. One way to increase sustainability and to reduce CO₂ emissions from the use of energy is to reduce the carbon contents of electricity. Electricity can be decarbonised by using renewable sources and sources of electricity generation that do not generate CO₂ emissions. If the price of electricity is not the outcome of efficient market mechanisms, it may deviate upwards and thus create disincentives to use electricity and lead to replacing it with other, more emitting sources of energy.

2.7 How should the problem evolve, all things being equal? Should the EU act?

The 3rd Package entered into force on 3 September 2009 and will be applicable by 3 March 2011 with the exception of Article 11, which shall apply from 3 March 2013.

The provisions on transparency are included in Article 15 of Regulation (EC) 714/2009 and the annexed Congestion Management Guidelines and they remain nearly unaltered compared to Article 5 of Regulation (EC) 1228/2003 and its amended Congestion Management Guidelines. The amendments regarding fundamental data transparency included in the new Regulation are covered in paragraphs 4 and 5 of Article 15.

Paragraph 4 of Article 15 now includes the core of the requirements stemming from the Congestion Management Guidelines and lists the classes of relevant data that transmission system operators shall publish. These include data on:

- aggregated forecast and actual demand,
- availability and actual use of generation and load assets,
- availability and use of the networks and interconnections,
- balancing power and reserve capacity
- Additionally, for availability and actual use of small generation and load units, aggregated estimate data may be used.

The second amendment provided by the new paragraph 5 of Article 15 assigns market participants with the obligation to provide transmission system operators with the relevant data. This requirement had previously been included in paragraph 5.5 of the Congestion Management Guidelines.

To sum up, the changes introduced in the new Regulation do not change the substantial provisions of the old Regulation but elevate the above-mentioned requirements from the level of Congestion Management Guidelines to the level of Regulation.

The 3rd Package **does not introduce any substantial improvement to the fundamental data transparency framework and thus it does not solve the problems identified in the current transparency framework** (as provided by the Regulation and the annexed guidelines). The current provisions on transparency do not provide detailed enough requirements on which specific data and in which time frame should be made available to market participants. The lack of binding detailed rules also impedes the effective enforcement of the transparency requirements as indicated by the ERGEG 2nd Compliance Monitoring Report and the infringement procedures launched by the Commission in June 2009. Additionally, the current transparency framework does not contain any rules on the display of the data – whether there should be a common platform to ensure easy availability and access to the fundamental data in electricity which has been recognised as necessary and relevant for market actors.

The XIII Florence Forum in 2006 set up a voluntary working group – “Transparency Working Group” or TWG - consisting of all the relevant parties to work for the speedy implementation of the transparency rules. However, the voluntary approach did not succeed in providing any significant progress at European level. As shown by the failure of the voluntary approach, more detailed binding legislation is needed.

3 OBJECTIVES OF THE INITIATIVE

3.1 General objectives

The overarching objective of the ERGEG proposal is to achieve competitive and liquid European electricity markets by promoting reliable price formation and market participants' trust in wholesale market functioning.

In particular, this implies creating a level playing field for all relevant market players, where relevant actors have easy and free access to the same market information at the same moment in time. Establishing a minimum common level of fundamental pre-trade transparency is essential to the efficient functioning of wholesale electricity markets. Likewise, post-trade fundamental transparency is also important, as it shows how well forecasts were realised and the status of the power system when it comes to the market outcome.

3.2 Specific objectives

The objective of the comitology proposal is to define a common minimum level of publication on transmission infrastructure utilisation, generation, load and balancing to promote the development of a competitive and liquid European wholesale market. Information should be available for all market participants – suppliers, energy traders, generators, and demand side participants – on a fair and non-discriminatory basis across all Member States.

A specific objective is to develop a central information platform to enable all market participants to establish a coherent and consistent view of forecast and real-time pan-European transmission infrastructure utilisation, generation, load and balancing.

3.3 Confidentiality

Requirements to publish information need to be assessed from different viewpoints. Firstly, there is the need to have sufficient information available to promote efficient functioning of the market. On the other hand, there are the challenges related to the relatively concentrated and oligopolistic markets where excessive disclosure of information is argued to lead to strategic behaviour by suppliers (which can reduce competition and increase the risk for tacit collusion).

Additionally, company and unit-specific information may be regarded as a “business secret” and thus be considered confidential information. Information on electricity generation on a unit by unit basis reveals the business plans and activities of individual generators. Another issue related to confidentiality of information is the information on the use of electricity. The requirements to disclose information on interruption of electricity use on a consumption unit by unit basis is prone to reveal information on the level of business activity of industrial users of electricity.

Although legitimate, confidentiality interests regarding information disclosure should be considered in a relatively limited way and should not serve to foreclose markets or maintain uneven access to information.²¹

When assessing and deciding the right level of information, a balance needs to be struck between the information disclosure needs of market participants, the competition aspects of overly detailed information being available to competing market actors and confidentiality rules.

²¹ Commission staff Working Document, Impact assessment related to proposal to amend Chapter 3 of the Gas Regulation (EC) No. 1775/2005, Brussels, 10.11.2010, SEC(2010) 1362 final

4 POLICY OPTIONS

4.1 Option 1 – Continue with the current arrangements

This option implies that the current rules on fundamental data transparency in Article 5 of Regulation (EC) No. 1228/2003 and section 5 of the annexed Congestion Management Guidelines (which will be replaced with the Regulation (EC) No. 714/2009 and its Article 15 and the annexed Congestion Management Guidelines) will continue to form the basis for European minimum transparency requirements.

In addition, ERGEG would continue to work with stakeholders through the Electricity Regional Initiatives to improve wholesale market transparency on a voluntary basis and monitor progress and compliance with the existing legal requirements through the regional monitoring reports.

Publication of information would continue to evolve on the basis of the ERI transparency reports and as a result of voluntary initiatives by e.g. power exchanges (for example the EEX and Nord Pool Spot information platforms) and ENTSO-E, which is working to develop its transparency platform entsoe.net.

This approach is likely to continue to deliver **incremental improvements** in electricity wholesale market transparency. In addition, the Commission's recent infringement proceedings are likely to result in improved compliance with the current legal requirements. However, based on regulators' experience with implementing the existing legal requirements and the voluntary approach to improve transparency through the Regional Initiatives, it is ERGEG's view **that this framework is not sufficient to tackle the problems identified in chapter 2.1.**

The five²² regional transparency reports prepared on the basis of ERGEG's Guidelines of Good Practice on Information Management and Transparency provide a detailed overview of the existing regional requirements and level of fundamental data provision.

A comparison of the regional monitoring reports shows a mixed approach to the provision of information across Member States and regions in Europe. The current voluntary approach within the framework of the Regional Initiatives has failed to secure coherent and consistent provision of fundamental data across Member States and regions. In particular, the patchwork of legal and voluntary initiatives that exists across Europe today is not appropriate to provide market participants with a pan-European view of generation, load, transmission capacity and balancing.

The separate voluntary platforms apply differing definitions for the data that they disclose and this hampers getting a coherent picture of the market fundamentals and their development. What is more, the voluntary platforms do not currently properly cover the all the Member States, thus leaving a number of Member States and their markets uncovered. Entsoe.net in principle aims to cover the markets of its

²² Northern, Central-East, Central-West, South-West and Central-South European Regions

members, i.e. 32 European countries, but due to the fact that it is not mandatory to publish data on entsoe.net platform, not all the TSOs submit that information to the entsoe.net platform. The current situation is thus characterised by a framework consisting of an incomplete Europe-wide platform provided by ENTSO-E and national/regional platforms that cover a varying number of the transparency data items and Member States but not all. As a result, there is no platform that would provide the full coverage of Member States and the minimum set of data items that are considered vital for the proper functioning of electricity markets.

4.2 Option 2 – Adopt more detailed binding rules

This option implies adopting more detailed binding rules for fundamental data transparency. One way to achieve this is to amend section 5 of the Congestion Management Guidelines annexed to Regulation (EC) No. 714/2009. Article 18(5) of the Regulation (EC) No. 714/2009 states that the Commission may amend the Congestion Management Guidelines, in accordance with the principles set out in Articles 15 and 16 of the Regulation. Article 15 of the Regulation also addresses issues related to provision of fundamental data.

Another way of making the provisions on transparency legally binding would be to use the process of framework guidelines and network codes. This approach would require more time, as the framework guidelines should be officially consulted upon and prepared by the Agency for the Cooperation of Energy Regulators (ACER), following which the preparation of a draft network code could take up to 12 months according to the new Electricity Regulation.

Thirdly, the Commission also has the possibility of adopting legally binding guidelines on its own initiative in line with Article 18 of the new Electricity Regulation.

All these options enable the achievement of policy option 2, namely to have more detailed binding rules on the publication of fundamental data in electricity. As outlined in its letter (see Annex 2), the Commission envisages using the third approach - adopting a comitology guideline on the basis of Article 18 of the new Electricity Regulation.

As regional markets become more integrated through market coupling and increased physical interconnection, it will become increasingly important for market participants to be able to forecast supply and demand and transmission capacity availability across Member States and regions and develop a pan European view. Therefore, the benefits of having similar rules on, and provision of, fundamental data are likely to increase as markets become increasingly integrated.

It is ERGEG's view that more detailed binding rules are necessary to ensure that market participants have access to a minimum and consistent level of fundamental data on transmission infrastructure utilisation, generation, load and balancing across Europe. It is important that information is easily available to all market participants – suppliers, energy traders, generators, and demand side participants – on a fair and non-discriminatory basis.

This option also includes setting binding rules on the publication of the information, i.e. how and by whom the information is to be published and also rules on how the information is provided to TSOs, e.g. by generation, loads, etc. Furthermore, the option includes the idea of a centrally-run and managed web-based transparency platform to provide the fundamental data.

In the next chapter, we will assess the likely costs and benefits associated with the provision of specific types of fundamental data to market participants and the development of a single European platform for the provision of pan-European fundamental data.

5 COMPARISON OF POLICY OPTIONS

This section assesses the impact of setting additional and more detailed legally binding pan-European rules for publication of information on generation, load, transmission and interconnectors as well as balancing compared to Article 5 of the amended CM Guidelines of Regulation (EC) No. 1228/2003 and the new Regulation (EC) No. 714/2009/EC. A full list of the detailed requirements included in the ERGEG comitology proposal is provided in a separate document (Ref: E10-ENM-27-03, ERGEG Advice on Comitology Guidelines for Fundamental Electricity Data Transparency). In this section, we assess the costs and benefits for different stakeholders of information types that will have a significant impact in terms of either cost for the TSOs or relevant stakeholders to publish the information²³, or benefit to market participants and customers in terms of improving the efficient functioning of European wholesale electricity markets.

Additionally, ERGEG will present a rough estimate of the benefits of increasing transparency in the wholesale electricity markets and the costs of establishing a central information platform and the needed IT systems and their establishment, as well as running costs that would be needed to publish those data items covered by the binding transparency requirements on fundamental electricity data.

ERGEG will not assess the costs and benefits related to Option 1 – Continue with the current arrangements – as ERGEG does not consider that this option will lead to sufficient transparency to ensure non-discrimination, effective competition and the efficient functioning of the market.

5.1 Generation

It is important that market parties have information on available generation capacity, its structure in terms of generation units and the technology and fuels used, both in the long-term and closer to real-time. This will enable market parties to anticipate for any given period the volume of available generation and, when put together with forecasted demand information, the likely market clearing price.

It is ERGEG's view that setting a minimum benchmark for pan-European publication of information on generation availability and use will have the following benefits:

- Provide enhanced economic signals to the market;
- Minimise the need for TSOs to take costly balancing actions that are covered by the Balance Responsible Parties;
- Reduce the potential for market volatility; and
- Improve market participants' trust in the price formation process and encourage liquidity.

²³ These costs relate to the necessary investment to build robust information systems that provide accurate and close to real-time information, the maintenance of such a platform and the collection and provision of the required data.

It is important to note that ERGEG considers that these benefits will be realised over a significant time period. As market participants learn how to make better use of the information that is available, and the format, timeliness and type of information published is refined, ERGEG anticipates that the information will become increasingly useful to market participants. These benefits are explained in more detail in the assessment of the costs and benefits associated with key generation data types below.

ERGEG considers that, in terms of costs and benefits, the key generation data types are:

- Installed generation capacity both in aggregate and unit-by-unit form;
- Forecast on available generation capacity in a unit-by-unit form;
- Estimated aggregated scheduled generation;
- Forecasts for wind, water and solar;
- Ex-post actual generation both in aggregate and unit-by-unit form;
- Planned and unplanned outages of generation units;

It is important that all market parties are aware of the **installed generation capacity** for the market in which they operate. This information is necessary for market parties to develop a good understanding of the supply curve for the relevant market area and will facilitate a more robust price formation process. The information should also reduce price volatility as market participants are better able to forecast the price steps required to meet different levels of demand.

An issue to be assessed is the level of aggregation of the information. At a minimum, the information on installed generation capacity needs to be available by generation type since different types of generation have different marginal costs and will then – as a general rule – be offered to the market in a different order. Usually, there is more detailed knowledge of the installed generation capacity available to the market parties and e.g. electricity industry consultants. It has been argued especially by energy traders that unit per unit information on installed generation capacity should be publicly available. ERGEG is aware that the counterpart of this type of information is the information on planned outages of the generation units, which is included as a disclosure requirement in the ERI transparency reports and also applied in the current regimes. Disclosing unit per unit information on installed generation capacity on a unit basis would contribute to improving understanding of the generation landscape and creating a more level playing field in energy trading among incumbent generators, market entrants and pure energy traders.

ERGEG proposes that information on installed generation capacity is published for each generation unit. Similarly, it is considered important that ex-ante information about the **available capacity** is published at the same level of disaggregation, i.e. unit by unit.

The inclusion of a requirement to disclose unit per unit information introduces the need to set a threshold for the unit size to which the disclosure requirement applies. The current Congestion Management Guidelines stipulate that information on planned and unplanned outages of generation units larger than 100 MW is to be

disclosed to the market. As the limit is lowered, the amount of data to be submitted to the information platforms increases. On the basis of the experience gained it seems reasonable to retain the current threshold for publication and define that the requirement covers units equal to 100 MW or above.

Information on **aggregate scheduled generation** is also highly relevant to all market actors. Furthermore, this information has to be available to the TSOs before the day-ahead market because it is necessary for calculation of transmission capacity. ERGEG proposes publishing this information for the three following years.

Information on the **planned outages of generation units** is important to market parties as (the effect depending on the size of the unit that will be out of use) this will affect the supply and, due to its influence on the supply curve, will also affect the decisions of other suppliers, traders and users of electricity. This is already required by the current Congestion Management Guidelines for units of 100 MW and above. Naturally, TSOs need information on planned outages of generation units since such outages will have an effect on system security.

Ex-post information on **actual generation and outages** is needed so that market actors are able to assess and analyse the relationship between supply, demand and price and attribute the observed price movements to the developments in the fundamental factors like actual generation and experienced outages of power plants. Ex-post information on actual generation is to be provided on an aggregated basis by generation and fuel type. This level of aggregation will provide the market parties with a reasonable level of information on the realised generation and supply.

A concern raised regarding the publication of this type of information is the effect on competition. It is feared that the availability of this kind of information could increase the risk of tacit collusion by generators; e.g. if electricity generators have agreed on how much to generate and have agreed to withdraw from production, the disclosure of this kind of information is claimed to provide the opportunity for the cartel members to observe whether the participants are following the agreements made. To conclude, the opponents see that disclosing near real-time unit by unit information amounts to creating too much transparency, which in turn can strengthen anti-competitive behaviour.

On the other hand, information on actual unit by unit generation output is already available in some parts of Europe on a commercial basis. A firm called Genscape collects real-time information on generation units and their operation by monitoring frequency of the electricity networks via frequency monitors (a loss of a generation unit and the ramp up of a unit are displayed as a frequency disturbance) and selling such information.

As actual unit by unit generation output information is considered relevant by market parties to create a proper picture of the market, ERGEG proposes that this data item is also published at a short frequency. ERGEG proposes to set the level at 100 MW and that the information be provided 1 hour after real-time.

Ex-post information on unplanned outages and the cause of the outage need to be provided on a unit by unit basis as already required by the Congestion Management

Guidelines for units of 100 MW and above. Additionally, information on the start-up of units after an unplanned outage is to be made publicly available without delay.

An issue of relevance for the information on both planned and unplanned outages of generation units is whether the information is to be provided on an anonymous basis or disclosing the identity of the unit. Those who have been against disclosing this type of information have referred to competition concerns and the plausibility of increasing the risk of tacit collusion if the names of the generators and generating units were known.

In the Nordic market, the practice of Urgent Market Messages (UMMs) has included the disclosure of the name of the company, the name of the station/power plant and the affected unit. The other alternative would be to disclose the amount of capacity that will be away from the market and the bidding area concerned. ERGEG considers that the good experience of the Nord Pool Spot transparency regime – which was recently awarded the European Transparency Award by the Florence School of Regulation – speaks in favour of choosing the practice that has been applied successfully in the Nordic market. It is also of significance for market actors to know what the affected unit is, as that information is very likely to have relevance for the price formation in terms of supply structure and the outlook for the length of the outage.

Furthermore, the rules on insider trading also require the disclosure of this type of information, and accordingly, the proposed requirement would be in line with the obligations set on trading in organised markets.

An example illustrating the relevance of information on generation availability can be reported from the French market. On Monday 19 October 2009, electricity prices on the French spot market reached 3000€/MWh over four hours, from 8am to 12pm. During these four hours, offers to sell power did not cover bid volumes and the shortfall of hourly volumes registered an average of almost 1000 MW after the TLC trilateral coupling process. The technical ceiling of 3000 €/MWh was therefore applied for these hours, in accordance with EPEX Spot Auction trading regulations.

According to the French regulator's (CRE) deliberation on 20 November 2009, the extreme pressure on production fundamentals and on the forecast balance between supply and demand the day before 19 October led to the price peak recorded the following day. This pressure was the result of two combined factors:

- A 3000 MW increase of the electricity consumption forecast between 16 October and 18 October. On 16 October, the electricity forecast for 19 October was 65.9 GW. On 18 October, this forecast was revised to 68.9 GW.
- A 4100 MW drop of availability forecast of generation. On 16 October, the availability forecast of generation for 19 October was 77.8 GW. On 18 October, this forecast was revised to 73.7 GW.

In total, between Friday and Sunday mornings, total revisions for consumption (increased) and available capacity (decreased) reached the considerable figure of 7100 MW. These revisions may have significantly changed participants' anticipations and actions on the markets on Sunday morning, having a significant effect on the market.

Forecasts for wind, water and solar are relevant classes of information in those systems and markets where they have an adequately significant share of generation capacity. Due to the intermittent character of this kind of generation, even moderate shares of total generation are important in the forecast. However, ERGEG suggests a threshold in order not to increase information flows too much and not to burden very small generators. It is proposed that in countries with more than 1% feed-in of wind or solar power generation per year or for bidding areas with more than 5% feed-in of this type of generation per year both forecast and actual data on generation is to be published. Regarding water, it is proposed to publish data in countries with more than 10% feed-in of this type of generation per year or for bidding areas with more than 30% feed-in of this type per year.

To provide information on generation data items, generators incur costs, in order to submit the agreed information in a timely manner to the administrator of the publishing platform. Information on aggregate scheduled generation, forecasts on wind, solar and water generation as well as ex-post information on actual generation needs to be submitted on a daily basis, whereas frequency of the information on outages is naturally dependent on the occurrence of such events. Information falling into this category currently needs to be provided to the TSOs on a national basis and to the national or regional power exchange depending on how the implementation of the current transparency requirements has been organised.

5.2 Transmission and interconnection

Generators and traders acting on internal and cross-border markets as well as regulatory authorities would use information on transmission and access to interconnectors. This information needs to be provided by the TSOs. It is important that information on transmission and interconnectors is published in order to create a level playing field and equal competitive conditions, as it secures equal information to all market participants.

It is ERGEG's view that setting a minimum benchmark for pan-European publication of information on transmission and interconnectors will have the following benefits:

- Enable efficient use of transmission networks and interconnections;
- Enable existing players to plan their positions;
- Engender trust in the market;
- Enable evaluation of how security criteria are met;
- Improve the efficiency of the use of the transmission network, foster introduction and usage of flow-based capacity calculation methods in order to raise compatibility between the commercial and actual physical flows between the different control areas;
- Provide information to the market which will aid in the evaluation of future investment opportunities and needs.

As is the case for the disclosure of generation data, similarly the benefits of improving transparency of transmission and interconnector information will be realised over a significant time period. This is due to the same reason, namely that

market participants will learn how to make better use of the information that is available, and the format, timeliness and type of information published will be refined. Against this background, it can be anticipated that the information will become increasingly useful to market participants.

EREG considers that the most important requirements for publication of information on transmission and interconnectors cover:

- Actual interconnector flows between bidding areas to be published as close to real-time as possible;
- Updates in month and year ahead forecasts of available transmission capacity if changes occur;
- Week-ahead forecasts of available transmission capacity to be published daily at 11:00 CET and real-time if changes occur;
- Daily forecasts of day-ahead and intraday available transmission capacity;
- Notification of any reduction in available capacity from planned and unplanned outage (including direction of capacity, amount of capacity unavailable, expected restoration);
- Notification of restoration of available capacity following planned and unplanned outages;
- Publication of aggregated contracted cross-border capacity bookings ex-ante up to a year forward;
- In publishing availability of cross-border capacity, TSOs shall specify the capacity already reserved for long-term contracts with non-EU Member States and how long these contracts are in existence.

Market parties need information on the **available transmission capacity** for various time frames to be able to assess the effect of available capacity on trading possibilities and price formation. Similarly, information on **unplanned and planned outages and the restoration of lines** will have an effect on available capacity. If such events influence cross-border capacity, they may affect the results of market coupling. For example, an outage of a transmission line may reduce cross-border capacity that is available for market coupling and this may then result to price differences across the bidding zones. Information on **contracted cross-border capacity bookings** provides market actors with crucial information on how much capacity will be available for day-ahead market coupling. As pre-contracting of cross-border capacity reduces the amount available for day-ahead allocation, the larger the pre-contracted share of capacity the less capacity is left for day-ahead allocation, thus signalling scarcity of capacity if there is significant demand for transmission capacity.

An issue for consideration here has been the identity of the affected transmission line or transformer station which is the cause of the change in the available capacity between bidding areas. TSO business is not open for competition and thus, no competition concerns would be involved in disclosing identified information on the affected transmission network element. A few European TSOs are affected by terrorism and theft and would favour not disclosing detailed information on their infrastructure. However, ERGEG sees that detailed information on planned and

unplanned unavailabilities of their transmission network infrastructure when such unavailabilities have an effect that equals to or exceeds 100 MW is in line with the proposition on transparency requirements to generation and consumption units.

5.3. Load

Market parties need to be able to forecast load, both in the long-term and closer to real-time, as this will enable them to anticipate for any given period the demand for electricity and together with accurate generation information, the likely market clearing price.

It is ERGEG's view that setting a minimum benchmark for pan-European publication of information on load will have similar benefits as were listed for improved transparency of generation data and data on transmission and interconnectors:

- Provide enhanced economic signals to the market;
- Provide market actors with information on market size;
- Minimise the need for TSOs to take costly balancing actions to be borne by Balance Responsible Parties;
- Reduce the potential for market volatility;
- Improve market participants' trust in the price formation process and encourage liquidity.

ERGEG considers that the key load data types, in terms of costs and benefits are:

- Day, week, month and year-ahead load forecasts;
- Hourly actual total load;
- Year-ahead forecast margin including peak load forecast;
- Planned outages of consumption units;
- Unplanned outages of consumption units.

The best variable to describe the volume of total consumption in the electricity system is **total load**, which is the sum of power generated by power plants in the TSO and DSO networks, from which the export-import balance of exchanges on interconnections between the bidding areas and the power absorbed by energy storage resources is deducted. However, currently not all the TSOs are able to get this information from their networks, and instead, vertical load is calculated. Vertical load is the total amount of power flowing out of the transmission network to the distribution networks, to directly connected end-consumers or to the consuming part of generation. ERGEG proposes that until the end of 2013, vertical load could be used as the proxy for load if data on total load is not achievable.

Day-ahead load forecast is important for the day-ahead electricity market as it allows generators and traders to assess the demand curve and make informed decisions on the running of the generation units and on the trading needs. Also, this information has to be available to the TSOs before the day-ahead market as it is

necessary for calculation of transmission capacity. Similarly, market actors need weekly, monthly and yearly forecasts.

The French example described in the context of generation in Chapter 5.1 is relevant to load as well. The missing information on updated load forecast did not reach the market actors and led – together with the missing information on generation availability – to extremely high prices on the French market.

Information on actual load close to real-time is important to the market actors. ERGEG proposes that this load information – depending on the technical ability to provide information on load – is based on vertical load. With regard to publication, ERGEG proposes that this type of data be published at the latest one hour after the operational hour.

The difference between yearly forecast of available generation capacity and yearly forecast of load (all withdrawals and losses to be included), both evaluated at time of annual peak load per bidding area, is important information for generators to assess the need to build new generation capacity. Publication of this information facilitates understanding of the market situation by market participants as it shows the balance between supply and demand. The forecast of the power balance during critical times, e.g. winter time in the northern areas and summer time in the southern part of Europe, is important. High prices may arise due to a lack of power or capacity. This is also important information for demand response purposes.

Planned outages of large consumption units provide generators, traders and TSOs with information on the envisaged decrease in future consumption. Correspondingly, information on actual consumption and past outages provided after the fact is significant in enabling market actors to understand price formation as a result of demand interaction with actual supply.

Similarly to the transparency requirements on generation units, ERGEG proposes that information on planned and unplanned outages of consumption units where the affected capacity equals to or exceeds 100 MW is given in an identifiable manner, disclosing the name of the consumption unit.

ERGEG has considered whether this type of information would raise serious competition concerns as the electricity consumers are usually competitors in their respective markets and detailed information on disruptions in electricity consumption would reveal to competitors whether and how much the affected consumption unit would be able to produce – information that could be relevant to the competitors in this other market.

As stated in the context of generation outage information, the practice of disclosing the name of the consumption unit has been applied for years in the Nordic market through the application of Nord Pool Spot rules on Urgent Market Messages. The information on which significant consumption unit is out of the market is relevant information for price formation. Information on the identity of the consumption unit could influence bid curves in different ways due to the fact that different consuming industry plants have different marginal costs. Failures in some industries would have different consequences, e.g. aluminium plants face specific risks if failures last more than a few hours. It is important to disclose such risk information, as it might influence price formation. Information of specific plants enables the market to assess the risk of prolonged outage due to historical information about earlier outages. Disclosing the identity of the consumption unit will also enable the market to control that the information is correct since it is possible to link the information

with information from the media or elsewhere and it is thereby possible to uncover faults in the information provided. This cross-checking is very important in order to ensure confidence in the information. Additionally, the specific location of consumption units may influence the calculation of transmission capacity.

TSOs are the main providers of information on load data items, with the exception of information on outages, which is to be provided by the consumption units themselves. Large volumes of information are already provided by the TSOs, as required by the current Congestion Management Guidelines. The information is disclosed either nationally on the TSOs' websites or regionally on the website of a power exchange. Accordingly, the additional costs will be related to the establishment of a European platform.

5.4 Balancing

The users of balancing information would be generators, balancing responsible parties, demand response parties and traders, as far as they are involved in the intraday and balancing trade.

Reaching a high level of transparency in this field is important, as it could contribute to reducing the market power of dominant and well-informed generators, and could indirectly have positive effects on the short term security of supply.

It is ERGEG's view that setting a minimum benchmark for pan-European publication of information on balancing will have the following benefits:

- Help market players to formulate their balancing offers;
- Increase the level of transparency in the management of TSOs;
- Increase the level of transparency on the services provided by the Balance Responsible Parties;
- Enable monitoring of the balancing markets.

ERGEG considers that the key data types on balancing, in terms of costs and benefits, include:

- Rules on balancing and the methodology for calculating imbalance charges;
- A description of cross-border balancing arrangements;
- Volume of balancing power contracted by TSOs;
- Reservation prices or capacity payments and their pricing methodology;
- Imbalance prices and volumes and prices of bids and offers (including averages and marginal prices of bids/offers);
- Financial balance of the market (expenses, payment);
- Market information on the type of balancing bids/offers used;
- Maximum and minimum prices of exchanged bids and offers per procurement time unit;
- Volume of balancing energy activated in various control areas.

Volume of balancing power contracted by TSOs is important to market participants because the overall amount of balancing power is a prerequisite to estimate market size and attractiveness of the market, in addition to security.

Imbalance prices per bidding area are relevant to the balance responsible parties. **Information on averages and marginal prices of bids/offers and volumes** increases the transparency of the balancing market and is important for monitoring purposes. This is very important as the balancing market is usually very concentrated. Increased transparency might lead to more efficient balancing markets and thus reduced balancing costs for generators, traders and consumers. Through increased transparency, there will be public pressure given that the prices will be known and other market actors are able to assess them. Additionally, this kind of information will also provide a price signal to those who might think about entering the market themselves. When price information is publicly available, those market actors that are less active can also more easily consider whether they would benefit from participation.

Harmonisation or standardisation of bid formats (activation period, run-times, etc.) would, to the extent this is possible, also contribute to transparency in the sense that it would be easier for participants (and the TSO) to compare products and prices.

Financial balance of the market increases the transparency of the balancing market and has special relevance for markets where expenses for balancing do not equal income from imbalance pricing.

The TSOs, as the entities responsible for organising and operating the balancing markets, are the main providers of information on balancing. This information is already provided by TSOs as required by the Congestion Management Guidelines. However, the Congestion Management Guidelines do not provide detailed rules regarding information on balancing, but requirements are set out in ERGEG's Guidelines of Good Practice on Information Management and Transparency in Electricity Markets. The information is disclosed either nationally on the TSOs' websites or regionally on the website of a power exchange. Accordingly, the additional costs will be related to the establishment of a European platform. However, as the guidelines of good practice are not legally binding, the requirements might create additional costs for some TSOs.

5.5 Publication of transparency data

Overall, ERGEG considers that there are benefits to customers and to the market more widely in respect of enhanced economy and efficiency from improved publication of information on generation, load, transmission and interconnections and balancing in the European electricity market.

ERGEG recognises that there will be associated IT costs for TSOs, generators and consumers who will have to provide TSOs with the relevant information and to establish appropriate contracts between TSOs and their relevant counterparties to implement the proposals.

In terms of costs, ERGEG notes that there may be costs associated with:

- The IT infrastructure that needs to be established to provide the data to the central platform on a regular basis and in order for the information to be made available to market participants;
- Establishing contracts that ensure the flow of information from the data providers other than TSOs (generators, consumers) to the TSOs and contracts that also ensure the provision of information from the TSOs to a central platform.

ERGEG considers that the majority of the costs associated with the proposals are the upfront costs of establishing the IT infrastructure to make the information available to all market participants in a non-discriminatory and user-friendly fashion.

There are alternative ways of making fundamental transparency data available. Currently TSOs, power exchanges and ENTSO-E disclose data that fall within the scope of the electricity fundamental data as defined in this Initial Impact Assessment. Each TSO usually publishes information on its own transmission network infrastructure, cross-border interconnections and the relevant load, generation and balancing information. The shortcoming with the TSO approach is that although they provide the transparency information covering their own transmission systems, a full picture of a wider region, let alone the whole IEM, is missing.

The power exchanges have undertaken useful initiatives to improve transparency in the area where they operate. There are good examples of such initiatives, e.g. the Nord Pool Spot website and the central transparency platform for generation and consumption data established by EEX and the four German TSOs. The power exchange initiatives also lack the capacity to provide a full picture of the European electricity market and fundamentals affecting it. They manage to provide a regional view. Furthermore, they may not succeed in covering all the relevant sources of information that are needed to prepare a sound description of the market developments and the future European integration.

ENTSO-E has committed to develop the Europe-wide entsoe.net platform to ensure data coverage and consistency. To ensure that a fully comprehensive platform is reached and all the relevant market parties submit on an agreed basis all the relevant information to the platform, binding rules are considered necessary to establish such a publication service. The establishment and running of such a platform will inevitably create costs for TSOs and ENTSO-E. These costs will be subject to the NRAs' approval and may be socialised in cases where this is justified, efficient and reasonable.

6 THE BENEFITS AND COSTS OF THE PROPOSED FRAMEWORK

6.1 The benefits of increased transparency²⁴

Improved transparency will reduce risk and uncertainty. Economically-rational operation necessitates information on market fundamentals in order to make reasoned long-term planning. If uncertainties in the market are too high to bear, agents are driven to undertake other hedging and prevention measures which can be costly and inefficient. Efficient risk mitigation measures through hedging require well-functioning (financial) markets with trading transparency at a sufficient level. Ex-ante information of, for example, generation or interconnector outages needs to be equally available for all the market players.

Especially in more concentrated markets, larger players have better knowledge of the state of the electricity system, with large incumbent players reluctant to disclose information that lends them a competitive advantage. Alleviation of information asymmetry not only provides an equal playing field for all the generators, but also creates trust in the market, which in turn brings liquidity and demand side involvement. Any informational advantage gives the possibility to manipulate market outcomes by, for instance, increasing wholesale prices, creating high-levels of volatility, or manipulating market rules. Removal of information asymmetry can bring benefits to customers through market liquidity which should result in less volatile prices and increased competition.

Higher levels of transparency increase the ability of a regulator or other body to assess the level of competition in a market, which in turn drives increased efficiency and customer benefits. It allows regulators to intervene in a market where there are inefficient outcomes, or situations where market abuse is taking place. An additional benefit stems from the fact that a competitive market is more likely to lead to an efficient market outcome and hence will require lower regulatory costs and intervention.

Unnecessary complaints are avoidable if consumers understand and have trust in market functioning. In particular, electricity markets are prone to sudden (potentially unnecessary) intervention by politicians following price spikes that may be necessary to bring on new investment. Transparency of key data such as system margins, availability of plant and system tightness can help give the reassurance required to allow prices to rise to the level required to stimulate new entry.

In order to efficiently operate the interconnected power systems, TSOs need to have access to real-time and prospective information of both supply and demand. Expected benefits from regional electricity markets require efficient dispatching in a geographically large area. Short term balancing and short term reliability measures, such as interconnector allocation, are executed more efficiently if accurate and timely information is available to the system responsible parties. Additionally, TSOs

²⁴ This chapter draws from the Pöyry consultancy report *The Benefits of Increased Transparency in European Wholesale Electricity Markets, A report to The Energy Market Authority* (Finland), November 2010

often have responsibility for ensuring the long-term security of the system – for example ensuring that sufficient capacity is built to maintain system margins. Increased transparency leads to better decisions about long-term system security.

According to the Pöyry study²⁵, there is no information that could be used to reasonably estimate the benefits that transparency might bring in an indirect manner. This does not mean that there is no relationship between increased transparency and customer benefits, but rather that measuring this in a robust and quantitative manner is very difficult.

To overcome this, an approach has been applied to establish a quantitative measure to understand how transparency may lead to customer benefits. As a starting point, the level of transparency in some European countries has been presented on the basis of a study made by Hooper, Twoney and Newbery (2009). They compared the transparency of European electricity markets and considered the performance of Member States based on compliance with the Congestion Management Guidelines' requirements and the ERGEG Guidelines for Good Practice on Information Management and Transparency in Electricity Markets.

Table 1 shows the results as provide in Table 12 of the report on the study by Hooper, Twoney and Newbery for the countries we have looked at. The Nord Pool performance score has been calculated by averaging the performance scores of Denmark, Finland, Norway and Sweden. The Pöyry study has looked at three measures of customer benefits suggested by the commissioner of the study: wholesale market prices, risk margins and bid-ask spreads across European markets. Increasing transparency may lead to lower prices, lower risk margins or lower bid-ask spreads, as price discovery is more effective. However, there are many other factors that may obscure any relationship.

Table 1. Performance of countries in terms of transparency

	<u>Performance</u>
France	90%
Germany	86%
Great Britain	90%
Italy	79%
Netherlands	83%
Nordpool	98%
Spain	79%

Source: Hooper, Twomey, Newbery, 2009. Transparency and Confidentiality in Competitive Electricity Markets. USAID / National Association of Regulatory Utility Commissioners, USA

²⁵ See the previous reference.

Given the difficulty in establishing a direct relationship between market transparency and customer benefit, the Pöyry study conducted a ‘what-if’ analysis, using a percentage change in market price suggested by the commissioner of the report to establish what the benefit for consumers could be if the wholesale price were reduced by x%.

Net changes in benefit in electricity markets is a sum of consumer surplus, producer surplus and congestion rent. A decrease in electricity price, ceteris paribus, represents income transfer from producers to consumers and has thus no effect on total welfare. On the other hand, if we assume that the decrease in electricity price is a result of increased market efficiency or increased electricity trade, the net effect on total welfare is positive.

While recognising the dynamics of welfare changes, the study has interpreted price reductions as straight benefit for customers. If increased transparency led to a drop in prices of 0.01%, the benefit to customers would amount to around €10 million per year, whilst if prices dropped by 1%, this would lead to savings of around €1 billion a year. This assumes that 100% of the savings are passed through to the customers. The countries analysed were Austria, Belgium, France, Germany, UK, Italy, Netherlands, NordPool, Poland, Portugal and Spain. When considering the whole EU electricity market the envisaged effects are bigger.

The calculated average spot prices for each market for each of the years 2005-2009 show differentials for the wholesale electricity market prices for the above-mentioned countries. In Table 2 negative (positive) values indicate lower (higher) electricity price in the country listed on the left-hand side in comparison to the country in the top row.

Table 2. Difference in average exchange prices in real 2009 €/MWh for 2009

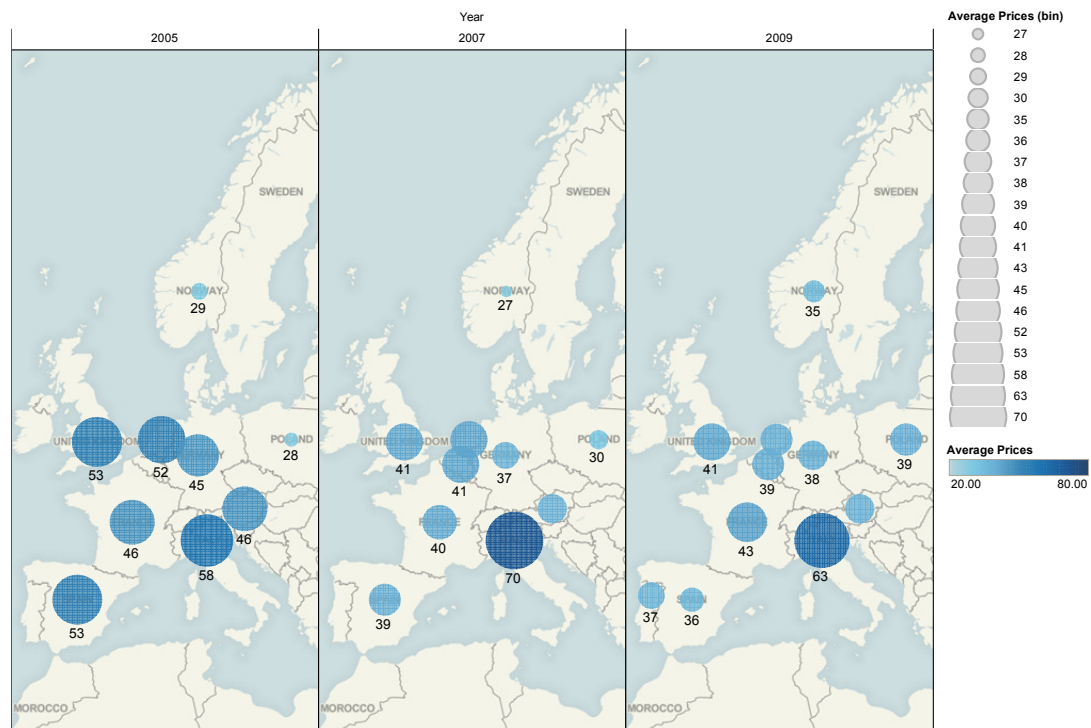
Country Name	Aus	Bel	Fra	Ger	GB	Ita	Net	Nor	Pol	Por	Spa
Austria	0.0	-0.4	-4.1	0.1	-2.4	-24.8	-0.2	3.9	-0.4	1.3	2.0
Belgium	0.4	0.0	-3.7	0.5	-2.0	-24.4	0.2	4.3	0.1	1.7	2.4
France	4.1	3.7	0.0	4.2	1.7	-20.7	3.9	8.0	3.8	5.4	6.1
Germany	-0.1	-0.5	-4.2	0.0	-2.5	-24.9	-0.3	3.8	-0.4	1.2	1.9
Great Britain	2.4	2.0	-1.7	2.5	0.0	-22.4	2.2	6.3	2.1	3.7	4.4
Italy	24.8	24.4	20.7	24.9	22.4	0.0	24.6	28.7	24.4	26.1	26.8
Netherlands	0.2	-0.2	-3.9	0.3	-2.2	-24.6	0.0	4.1	-0.1	1.5	2.2
Nordpool	-3.9	-4.3	-8.0	-3.8	-6.3	-28.7	-4.1	0.0	-4.3	-2.6	-1.9
Poland	0.4	-0.1	-3.8	0.4	-2.1	-24.4	0.1	4.3	0.0	1.7	2.3
Portugal	-1.3	-1.7	-5.4	-1.2	-3.7	-26.1	-1.5	2.6	-1.7	0.0	0.7
Spain	-2.0	-2.4	-6.1	-1.9	-4.4	-26.8	-2.2	1.9	-2.3	-0.7	0.0

Source: Pöyry Energy Consulting analysis of APX, Belpex, EEX, EXAA, GME, NordPool, OMEL, POLPX, and Powernext data

Figure 1 shows the average price of the countries' markets for 2005, 2007 and 2009. Over that period, prices have varied year-on-year without any clear trend emerging. Pöyry believes this is the case because prices have been influenced by varying market fundamentals such as demand, capacity availability and fuel prices. If the increase in market transparency had any impact on the price level, this impact has been negligible compared to the influence of the factors mentioned above.

Price differences between markets have decreased overall. One of the main reasons for the convergence of prices in European countries is the liberalisation of electricity markets and the resulting increase of flows between countries. Overall market and electricity system efficiency increases as cross-border trade increases.

Figure 1. Average spot price values across European wholesale electricity markets for 2005, 2007 and 2009 (real 2009 Euros/MWh)



Source: Pöyry Energy Consulting analysis of APX, Belpex, EEX, EXAA, GME, Nord Pool, OMEL, POLPX, and Powernext data

One way to assess the benefits of transparency is to look at risk margin and compare the difference between forward prices and outturn prices of the underlying reference spot market. The Pöyry study analysis was based on information from France, Germany, the UK, Italy, the Netherlands, Nord Pool and Spain, using monthly forward contracts traded between January 2007 and September 2010.

The average of the difference between forward prices and outturn spot prices calculated over more than two years of historical data is regarded as a good proxy for risk margin. Two characteristics of the risk margin were considered:

- the average risk margin at the closest to the forward contract closing date;
- the variation of the risk margin with the days to maturity of the forward contract.

The first risk margin characteristic that the Pöyry study considered was the difference between outturn prices and last quoted forward prices before delivery.

Table 3. Average risk margin at delivery (real 2009 euro/MWh)

<u>Country</u>	<u>Average risk margin</u>
France	1.73
Germany	1.76
Great Britain	2.00
Italy	-1.34
Netherlands	2.27
Nordpool	0.90
Spain	2.06

Source: Pöyry Energy Consulting analysis of Heren and Nord Pool data

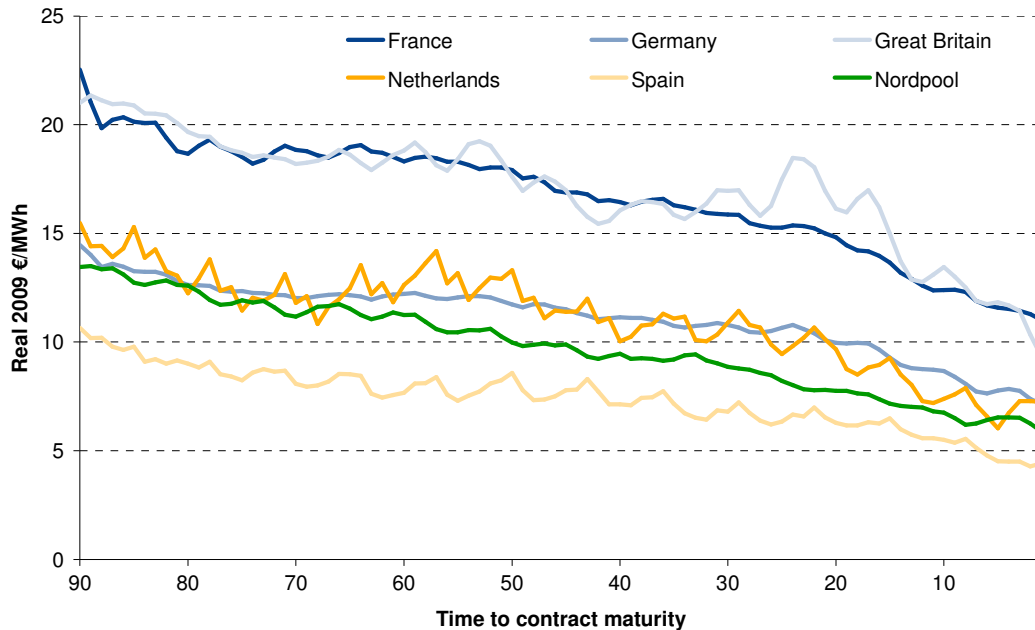
The results show that for France, Germany, Great Britain, the Netherlands and Spain there is a fairly constant difference of approximately €1.7 - €2.3/MWh between the last quoted price of the forward before delivery and the average spot price for electricity in that month.

NordPool has significantly lower risk margins. Italy is clearly an outlier with negative risk margin which means that the price of the forward is typically less than the average spot price for that month. This is driven primarily by the limited forward trading in the Italian market, which leads to an illiquid forward price.

We would expect the average risk margin at closing date to be linked to transparency. Indeed, the risk margin at closing date will reflect the ability of market participants to forecast spot prices and that ability should be greater if the market is transparent.

In this section, the standard deviation of the risk margin and how it changes according to the days before maturity of the monthly forward contracts is compared. Figure 2 shows the results obtained for Nord Pool and the electricity markets in France, Germany, Great Britain, the Netherlands and Spain. For this analysis, Italy has been ignored because of the scarcity of the data due to low trading volumes.

Figure 2. *Standard deviation of the risk margin against days to maturity of the monthly forward contracts (real 2009 €/MWh)*



Source: Pöyry Energy Consulting analysis of Heren and NordPool data

The variability of the risk margin will depend on the uncertainty in the market. Market uncertainty comes from the unpredictability of market fundamentals which can be partially mitigated by market transparency. The extent to which risk margin varies will depend on how much the expectation of future spot prices varies. A transparent market is likely to exhibit a smaller variability of the expectation of future spot prices because information improves the ability of market participants to forecast prices.

6.2 Costs of improving transparency

Policy Option 2 implies improving and updating the current entsoe.net platform and the establishment of IT systems for those TSOs who do not currently have appropriate systems for receiving and collecting the data identified in the proposition from the primary owners of data (e.g. owners of generating units, owners of consumption units, DSOs) and providing data to the central information platform. These measures will cause an original investment cost to develop the required systems both within ENTSO-E and within the individual TSOs and the primary owners of data who will then send the data

On the basis of the information provided by ENTSO-E, the costs accrued to ENTSO-E for developing the current entsoe.net platform to meet the requirements of the central information platform as described in the draft comitology guidelines and the costs of the ENTSO-E member TSOs to develop their systems to collect and provide the data to the central information platform will amount to a minimum of

some €10 million. If nearly real-time publication of generation on a unit by unit basis were required, the costs would need to be re-estimated.

Additionally, ENTSO-E has estimated that the annual costs of maintaining the central information platform and respectively the annual costs to TSOs' of collecting and providing the required data will also run in the range of €15 million.

At a meeting organised with stakeholder organisations on 10 November 2010 to discuss and elaborate on the responses to the public consultation, the representatives of Nord Pool Spot and the EEX Transparency Platform both stated that running of these national/regional transparency platforms requires a regular staffing of three experts to ensure that all the parties provide the data to which they are committed.

An impact assessment prepared for the evaluation of the costs and benefits of policy options to amend chapter 3 on "Definition of the technical information necessary for network users to gain effective access to the system, the definition of all relevant points and the time schedule according to which this information shall be published"²⁶ in the Annex of Regulation (EC) No 1775/2005 contained an assessment of the costs. The impact assessment resulted in a total cost of around €11 million. That was to cover the costs of creating an improved format of publication, compiling historical information, providing on a running basis detailed information on gas quality and interruptions by each TSO, providing near real-time flow data and creating a platform for a functioning secondary market system. Additionally, the future running costs were estimated to be around €2.2 million at European level.

ERGEG considers it important that the transparency framework is implemented in an efficient way. This covers also the aspect of cost-efficiency of the proposed central information platform that provides access to the defined minimum set of data that is regarded as relevant and important for the market to understand price formation. It is proposed that the platform is the responsibility of ENTSO-E. The cost-efficient development and running of the platform could include also subcontracting and it is up to ENTSO-E to choose the most efficient and cost-effective way to deliver the platform. To ensure this, ERGEG proposes that ENTSO-E submits its proposal for the central information platform to the Agency for approval in advance. Furthermore, the Agency shall annually review the efficiency and cost-effectiveness of the central information platform based on a report sent by ENTSO-E.

²⁶ Commission Staff Working Document accompanying the Document Impact Assessment Proposal to amend Chapter 3 "Definition of the technical information necessary for network users to gain effective access to the system, the definition of all relevant points for transparency requirements and the information to be published at all relevant points and the time schedule according to which this information shall be published", that is in the Annex of Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission network, Brussels, 10.11.2010 SEC(2010) 1362 final

7 CONCLUSIONS

In this Initial Impact Assessment, ERGEG has assessed what information that describes physical conditions influencing the wholesale electricity market directly or indirectly needs to be publicly available without any charge.

As electricity markets become more integrated, it will become increasingly important for market participants to be able to forecast supply and demand and transmission capacity availability across Member States and regions and to develop a pan European view. Therefore, the benefits of having similar rules on, and provision of, fundamental data on electricity are likely to increase as markets become increasingly integrated.

Two main policy options were assessed. Policy option 1 implied continuing with the current transparency regime on fundamental electricity data transparency and relying on the annexed Congestion Management Guidelines of the Electricity Regulation, supported by the ERGEG Electricity Regional Initiatives' efforts and the Commission's infringement procedures to enhance transparency. In Policy option 1 the information would be displayed on various platforms; e.g. information on transmission and interconnections would be provided mainly through the platform that ENTSO-E has been developing for the past few years and on the websites of national TSOs. Other relevant information like data on generation – in some cases also information on transmission and interconnections – would be provided through national and regional transparency platforms, which would be established during the course of several years. While the requirements towards national/regional transparency platforms could be harmonised, a major shortcoming is the lack of appropriate transparency platforms in many Member States.

The present transparency regime has to some extent improved transparency requirements in five Electricity Regional Initiative regions. Despite this, the level of transparency is still asymmetric and patchy and market participants have been calling for wider and more harmonised fundamental data transparency.

As a result, ERGEG considers policy option 1 an inefficient option and would not recommend this option.

Policy option 2 implies adopting more detailed legally binding rules on fundamental electricity data through comitology guidelines as enabled by Article 18.3 of the New Electricity Regulation. More detailed binding rules are necessary to ensure that market participants have access to a minimum and consistent level of fundamental data on transmission infrastructure utilisation, generation, load and balancing across Europe. It is important that information is easily available to all market participants – suppliers, energy traders, generators, and demand side participants – on a fair and non-discriminatory basis.

The more detailed binding rules would build upon the current requirements of Article 15 of the New Electricity Regulation and paragraph 5 of the annexed Congestion Management Guidelines and would not contradict their contents. The requirements of paragraph 5 of the annexed Congestion Management Guidelines coincide with those of the amended Guidelines adopted on the basis of the Electricity Regulation (EC) No. 1228/2003.

The propositions on introducing more detailed requirements for reporting and publishing information on generation and load aim at enhancing economic signals to the market and strive to minimise the need for costly balancing and price volatility. The specified set of information on load and generation would also improve trust in price formation and thus liquidity.

Policy option 2 would also enable more efficient use of transmission networks and interconnectors and enable market participants to plan their positions in a better way. By doing so, trust in the market and even security criteria could be better met.

Concerning balancing, policy option 2 would provide better planning in balancing and increase the level of transparency in TSO management and allow for monitoring of the balancing markets.

Binding fundamental transparency rules are necessary in order to take fundamental data transparency to the pan-European level. The ERGEG proposals for comitology guidelines on fundamental transparency are a first step in this direction. Furthermore, it is important that the guidelines include clear and appropriate definitions for the data items in order to guarantee a Europe-wide harmonisation of fundamental transparency data.

In addition to the data disclosure requirements, an important issue is the decision on publication via a central information platform. There are alternative ways of making transparency data available. Currently TSOs, power exchanges and ENTSO-E are disclosing much of the data that fall within the scope of the electricity fundamental data as defined in this Initial Impact Assessment. Each TSO usually publishes information on its own transmission network infrastructure, cross-border interconnections and the relevant load, generation and balancing information for their respective control area. The same applies to other transparency platforms that can be national (like EEX Transparency platform) or regional (Nord Pool Spot) in scope. The shortcoming with the TSO or national/regional transparency platform approach is that although they provide the transparency information covering one or more transmission systems, a full picture of a wider region, let alone the whole IEM, is missing.

In this initial impact assessment, ERGEG has come to the conclusion that a central information platform needs to be developed to enable the publication of the information that has been defined here as vital for the proper functioning of the electricity markets. A natural party to undertake this assignment would be ENTSO-E as TSOs are in a central position when providing the information and also when collecting it when they are not themselves the owners of the data. However, if before the implementation of these guidelines TSOs, generators, consumption units and Distribution System Operators have submitted the information to local or regional platforms, these platforms can be used to provide the information for publication to the central information platform. Furthermore, the guidelines do not preclude in any way the disclosure of the same information, parts of it or more information, on the websites of TSOs and other parties, e.g. the current regional or national platforms

8 MONITORING AND EVALUATION

The responsibilities and obligations proposed in policy option 2 fall on TSOs, as both owners of data (transmission and interconnections, balancing) and collectors and submitting entities of data (generation, load). Furthermore, ERGEG proposes to place responsibilities and obligations on generation units, consumption units and DSOs as well as owners of some classes of data.

With regard to TSOs, generation units, consumption units and DSOs, it would be the NRAs who would be assigned the task of overseeing and ensuring compliance with the envisaged more binding rules. The NRAs are already responsible for ensuring compliance with the Electricity Regulation and its annexed Congestion Management Guidelines.

As the proposition includes the set-up of a central information platform by ENTSO-E, it would be appropriate for the Agency for the Cooperation of Energy Regulators to ensure compliance with these guidelines regarding the obligations placed on ENTSO-E.

ERGEG considers it important ensure that the transparency framework is implemented in an efficient way. ERGEG proposes that ENTSO-E submits its proposal for the central information platform to the Agency for approval in advance. Furthermore, the Agency shall annually review the efficiency and cost-effectiveness of the central information platform based on a report sent by ENTSO-E.

ANNEX 1 – Glossary and Abbreviations

Term	Definition
ACER	Agency for Cooperation of Energy Regulators
ATC	Available Transfer Capacity, defined by the ETSO method
CESR	Committee of European Securities Regulators
CM	Congestion Management
CRE	Commission de Régulation de l'Energie (French NRA)
DG COMP	(European Commission) Directorate General for Competition
DG ENER	(European Commission) Directorate General for Energy
DSO	Distribution System Operator
EFET	European Federation of Energy Traders
ENTSO-E	European Network of Transmission System Operators – Electricity
ERGEG	European Regulators Group for Electricity and Gas
ERI	(ERGEG) Electricity Regional Initiative
ETSO	Association of European Electricity Transmission System Operators)
Eurelectric	The Union of the Electricity Industry
EuroPEX	Association of European Power Exchanges
FB	Flow-based
FG	Framework Guidelines
GGPIMT	Guidelines of Good Practice for Information Management and Transparency
IEM	Internal Electricity Market
NRA	National regulatory authority
NTC	Net Transfer Capacity, defined by the ETSO method
OTC	Over-The-Counter trading is to buy and sell products such as commodities or derivatives directly between two parties, as opposed to exchange trading, which occurs via facilities constructed for that purpose (exchanges).
PCG	Project Coordination Group
REM	Regional Energy Market
TC	Transfer Capacity
TRM	Transmission Reliability Margin
TSO	Transmission System Operator
TTC	Total Transfer Capacity
TWG	Transparency Working Group

ANNEX 2 – Mandate for ERGEG to provide advice to EC on transparency

In a letter of 18 January 2010, from the Director of the Commission's DG Energy to the ERGEG President, the Commission requested ERGEG submit advice on a comitology guideline on fundamental data transparency in electricity.

The letter referred to the Commission discussion paper from September 2009 where transparency was an area proposed as a priority. The Commission explained that in this case they thought there were good reasons to deviate from the normal procedure of writing first a Framework Guideline and then a network code. The Commission wanted to speed up the process for making detailed legally binding rules for transparency of fundamental data in the electricity markets. This approach was also confirmed at the December 2009 Florence Forum through the support of stakeholders.

The letter stated that “...we now request ERGEG to advise the Commission in this matter and prepare a draft guideline by the end of 2010 which the Commission could formally adopt and make legally binding through comitology.”

The Commission specified its assignment by defining that the work should take into account the existing requirements for fundamental data transparency in the congestion management guidelines annexed to Regulation 1228/2003/EC and the experience gained during the requirements have been in force. The work on transparency made in the Regional Initiatives was also to be taken into account.

The Commission also suggested in its letter that the work be done in close co-operation with ENTSO-E. As regards the mode of publication, the Commission suggested that the efforts of ENTSO-E to create a single interface for publication of data through a common internet portal be given full recognition.